

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 01 JUL 2005

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Applicant's or agent's file reference ---	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/NL2004/000214	International filing date (day/month/year) 30.03.2004	Priority date (day/month/year) 01.04.2003	
International Patent Classification (IPC) or national classification and IPC B60R1/12			
Applicant IKU HOLDING MONTFOORT B.V. ET AL			

1. This report is the International preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

- (sent to the applicant and to the International Bureau) a total of 7 sheets, as follows:*
 - sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
- (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).*

4. This report contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

Date of submission of the demand 01.02.2005	Date of completion of this report 04.07.2005
Name and mailing address of the international preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Daehnhardt, A Telephone No. +31 70 340-4268



**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
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Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - international search (under Rules 12.3 and 23.1(b))
 - publication of the international application (under Rule 12.4)
 - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

Description, Pages

1, 2, 4-8	as originally filed
3, 3a	as amended (together with any statement) under Art. 19 PCT

Claims, Numbers

1-13	as amended (together with any statement) under Art. 19 PCT
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Drawings, Sheets

1/2-2/2	as originally filed
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a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. The amendments have resulted in the cancellation of:
 - the description, pages
 - the claims, Nos. 14,15
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):
4. This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - the description, pages
 - the claims, Nos.
 - the drawings, sheets/figs
 - the sequence listing (*specify*):
 - any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-13
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1 State of the art

Reference is made to the following documents:

- D1: WO 95/25322 A (PATCHELL JOHN ;GALLIUM SOFTWARE INC (CA); PRIOR JOHN LEONARD (CA)) 21 September 1995 (1995-09-21)
- D2: EP-A-0 381 016 (HOHE KG) 8 August 1990 (1990-08-08)
- D3: US-B1-6 476 731 (MIKI NOBUAKI ET AL) 5 November 2002 (2002-11-05)
- D4: PATENT ABSTRACTS OF JAPAN vol. 011, no. 208 (P-593), 7 July 1987 (1987-07-07) & JP 62 028684 A (NAOTO OOTSUKI), 6 February 1987 (1987-02-06)
- D5: FR-A-2 551 005 (GALLAND JEAN CLAUDE) 1 March 1985 (1985-03-01)
- D6: GB-A-2 350 741 (MARSHALL JASON ROBERT) 6 December 2000 (2000-12-06)
- D7: GB-A-2 311 265 (DONNELLY CORP) 24 September 1997 (1997-09-24)
- D8: US-B1-6 424 272 (GUTTA SRINIVAS ET AL) 23 July 2002 (2002-07-23)

2 Claims 1 to 13

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim1 does not involve an inventive step in the sense of Article 33(3) PCT.

The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document, cf. document D1, page 2, line 21 - 24; page 6, line 17 - page 7 line 19; figures 1 - 3) a wing mirror unit, in particular for a motor vehicle, comprising a detection system (1, 2) for detecting an object in a blind spot of the wing mirror unit, which detection system (1, 2) is provided with an observation unit (1a, 2a) for generating observation data; a data processing unit (page 7, line 28 - 32, figure 4a) for processing the observation data; and an indication unit (page 9, line 1 - 4) for displaying a warning signal, wherein internal data communication connections of the detection system are disposed in the wing mirror unit, so that the detection system is autonomous (page 2,

line 21 - 24), wherein the indication unit comprises an optical indicator (73).

The subject-matter of claim 1 therefore differs from this known wing mirror unit in that the optical indicator is disposed on the mirror supporting plate for generating an optical signal.

The problem to be solved by the present invention may therefore be regarded as to provide a clearly detectable warning signal.

The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The feature of disposing an optical indicator on a mirror supporting plate is described in document D2 (see figure 1) or document D4 (see figure 2) as providing the same advantages as in the present application. The skilled person would therefore regard it as a normal option to include this feature in the wing mirror unit described in document D1 in order to solve the problem posed.

Consequently, the subject-matter of claim 1 does not involve an inventive step.

2.2 Dependent claims 2 to 12 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT), the reasons being as follows:

The additional features of dependent claims 2, 3, 5, 7 and 8 are known from document D2, figures 1 and 2.

The features of claims 4, 9, 11 and 12 are merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem posed.

The additional features of claim 10 are known from document D1, page 7, line 28-32; page 9, line 1-4).

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Consequently, the subject-matter of claims 2 to 12 also lacks an inventive step.

2.3 The same reasoning as referred to under point 2.1 applies, mutatis mutandis, to the subject-matter of the corresponding independent claim 13, which therefore is also considered not inventive (Article 33(3) PCT).

3 Industrial applicability

The subject-matter of claims 1 to 13 seems to fulfil the provisions of Art. 33 (4) PCT, since it can be produced and used at least in the automotive industry.

Re Item VIII

Certain observations on the international application

1 Clarity

The term "**mirror supporting plate**" used in claims 1 and 13 is vague and unclear and leaves the reader in doubt as to the meaning of the technical features to which it refers, thereby rendering the definition of the subject-matter of said claims unclear, Article 6 PCT.

wing mirror unit and the motor vehicle need not take place via a data connection arranged for a relatively high data rate, or via a master-master bus system, also called a two-way multiplex system. Furthermore, the autonomous detection system is more flexible with respect to already 5 designed bus systems or motor vehicles, since fewer specific requirements are imposed on the interface of a bus system, if present, in the motor vehicle. Moreover, the autonomous detection system is applicable in different types of motor vehicles, or even in different types of types of wing mirror units. Through scaling up thus become possible, potential cost price 10 reductions can be realized.

Patent publication WO 95/25322 discloses a device for detecting the presence of an object in the blind spot of a vehicle, comprising a passive infrared sensor mountable on the vehicle.

Patent publication JP 62 028 684 discloses also a device for detecting 15 an object in the blind spot of the vehicle. The device comprises a luminous element mounted on the mirror housing.

By connecting the autonomous detection system as slave unit to a master-slave bus system disposed in the motor vehicle, it is ensured that transfer of data from the motor vehicle to the detection system is possible, 20 for instance to bring the detection system into a state of increased vigilance. Since in a master-slave bus system there is one central component, the master, which controls the communication of the bus, the system is inherently less expensive than a master-master bus system.

Preferably, the data processing unit is disposed on an actuator for 25 adjusting a mirror supporting plate provided with a mirror glass, which actuator is mounted on a supporting frame of the wing mirror unit. By disposing the data processing unit on the actuator, the majority of the electronic elements of the wing mirror unit is localized centrally, so that 30 electric connections, for instance the feed or the wiring to an interface with a master-slave bus, remain limited and are easy to realize. A saving of cost of components and assembly thereof is thus realized. In the vicinity of the

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actuator, there may be many electric facilities of the wing mirror unit. The actuator itself may, for instance, comprise two electromotors and two position sensors for the position of a mirror glass. Furthermore, the mirror glass may be provided with a mirror heating element or an electrochromium 5 dimmer. Furthermore, in the wing mirror unit, there are often lights and

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CLAIMS

(91)

1. A wing mirror unit, in particular for a motor vehicle, comprising a detection system for detecting an object in a blind spot of the wing mirror unit, which detection system is provided with
 - an observation unit for generating observation data;
 - a data processing unit for processing the observation data; and
 - an indication unit for displaying a warning signal,
wherein internal data communication connections of the detection system are disposed in the wing mirror unit, so that the detection system is autonomous,
10 wherein the indication unit comprises an optical indicator, and
wherein the optical indicator is disposed on the mirror supporting plate for generating an optical signal.
2. A wing mirror unit according to claim 1, wherein the autonomous detection system is provided with a slave unit connectible to a master-slave bus system in a motor vehicle.
15
3. A wing mirror unit according to claim 1 or 2, comprising a supporting frame on which is disposed an actuator for adjusting a mirror supporting plate provided with a mirror glass, and wherein the data processing unit is mounted on the actuator.
4. A wing mirror unit according to claim 1, 2 or 3, wherein the observation unit comprises an optical camera.
20
5. A wing mirror unit according to claim 1, 2 or 3, wherein the observation unit comprises a transmitter for generating an electromagnetic actuation signal and a receptor for receiving an electromagnetic reflection signal.
25
6. A wing mirror unit according to claim 5, wherein the transmitter and the receptor are arranged to respectively generate and receive radar signals.

7. A wing mirror unit according to claim 5, wherein the transmitter and the receptor are integrated.
8. A wing mirror unit according to any one of the preceding claims, comprising a mirror housing mounted on the supporting frame, which substantially forms the exterior of the wing mirror unit, wherein the observation unit is located in the mirror housing.
9. A wing mirror unit according to any one of the preceding claims, wherein the observation unit is disposed on the actuator.
10. A wing mirror unit according to any one of the preceding claims, wherein the observation unit generates two electromagnetic actuation signals which spatially overlap each other partly.
11. A wing mirror unit according to any one of the preceding claims, wherein the detection system comprises a second observation unit for generating observation data in a second blind spot diagonally before the driver.
12. A wing mirror unit according to claim 1, wherein at the location of the optical indicator the mirror glass comprises semi-permeable optical material, so that a signal generated by the optical indicator passes through the semi-permeable optical material out of the wing mirror unit.
13. An actuator for adjusting a mirror supporting plate provided with a mirror glass with respect to a supporting frame on which the actuator is mounted, wherein on the actuator a data processing unit is disposed for processing observation data generated by an observation unit for detecting an object in a blind spot of a wing mirror unit,
- 25 wherein the indication unit comprises an optical indicator, and wherein the optical indicator is disposed on the mirror supporting plate for generating an optical signal.